```
=> file biosis caba caplus embase japio lifesci medline scisearch
=> e bisen prakash/au
E1          7       BISEN P S */AU
E2          4       BISEN P S DR/AU
E3          2 --> BISEN PRAKASH/AU
E4        124       BISEN PRAKASH S/AU
E5          1       BISEN PRAKASH S PROF/AU
E6         32       BISEN PRAKASH SINGH/AU
E7         33       BISEN PS/AU
E8          1       BISEN R/AU
E9         24       BISEN R K/AU
E10        12       BISEN R S/AU
E11         1       BISEN RUTH/AU
E12         1       BISEN S/AU

=> s e1-e7 and tuberculosis and diagnos?
L1         20 ("BISEN P S *"/AU OR "BISEN P S DR"/AU OR "BISEN PRAKASH"/AU OR
              "BISEN PRAKASH S"/AU OR "BISEN PRAKASH S PROF"/AU OR "BISEN PRAK
              ASH SINGH"/AU OR "BISEN PS"/AU) AND TUBERCULOSIS AND DIAGNOS?

=> dup rem l1
PROCESSING COMPLETED FOR L1
L2          7 DUP REM L1 (13 DUPLICATES REMOVED)

=> s l2 and glycolipid?
L3          2 L2 AND GLYCOLIPID?

=> d bib ab kwic 1-
YOU HAVE REQUESTED DATA FROM 2 ANSWERS - CONTINUE? Y/(N):y

L3   ANSWER 1 OF 2  BIOSIS  COPYRIGHT (c) 2010 The Thomson Corporation  on STN
AN   2005:464785  BIOSIS <<LOGINID::20100824>>
DN   PREV200510248351
TI     ***Glycolipids***   of Mycobacterium   ***tuberculosis***   strain H37Rv
     are potential serological markers for   ***diagnosis***   of active
      ***tuberculosis***   .
AU   Tiwari, R. P.; Tiwari, Dileep; Garg, Sanjay K.; Chandra, Ramesh;
      ***Bisen, Prakash S.***   [Reprint Author]
CS   Bundelkhand Univ, JC Bose Inst Life Sci, Dept Biotechnol, Jhansi 284218,
     Uttar Pradesh, India
     prakash_bisen@hotmail.com
SO   Clinical and Diagnostic Laboratory Immunology, (MAR 2005) Vol. 12, No. 3,
     pp. 465-473.
     ISSN: 1071-412X.
DT   Article
LA   English
ED   Entered STN: 9 Nov 2005
     Last Updated on STN: 9 Nov 2005
AB   A simple and cost-effective   ***diagnostic***   tool (TB Screen Test) for
     the screening of patients with pulmonary and extrapulmonary
      ***tuberculosis***   and for differentiation of those individuals from
     individuals without   ***tuberculosis***  , other common infections, and
     healthy controls has been developed.  The serological responses of
     purified mycobacterial   ***glycolipid***   antigens were examined by a
     liposome agglutination assay.  The assay was able to detect very low
     antiglycolipid antibody concentrations in the infected individuals.  The
     sera from the   ***tuberculosis***   patient group had significantly
```

higher concentrations of antiglycolipid antibody than the sera from
uninfected control subjects, with 94% sensitivity and 98.3% specificity.
Glycolipids   of Mycobacterium   ***tuberculosis***   H37Rv
antigens
were isolated, purified, and characterized. After interchelation with
liposome particles, these purified antigens specifically bound to the
antiglycolipid antibodies present in the sera of patients with
tuberculosis , resulting in the formation of a blue agglutination.
This protocol clearly differentiates healthy controls and M. bovis
BCG-vaccinated subjects from those with active   ***tuberculosis***   .
The resultant   ***diagnostic***   tool, the TB Screen Test, is more
economical and rapid (4 min) than other currently available products and
can be used for the mass screening of a heavily afflicted population.

TI   ***Glycolipids***   of Mycobacterium   ***tuberculosis***   strain H37Rv
        are potential serological markers for   ***diagnosis***   of active
        tuberculosis   .
AU   Tiwari, R. P.; Tiwari, Dileep; Garg, Sanjay K.; Chandra, Ramesh;
        Bisen, Prakash S.   [Reprint Author]

AB   A simple and cost-effective   ***diagnostic***   tool (TB Screen Test) for
        the screening of patients with pulmonary and extrapulmonary
        tuberculosis   and for differentiation of those individuals from
        individuals without   ***tuberculosis*** , other common infections, and
        healthy controls has been developed. The serological responses of
        purified mycobacterial   ***glycolipid***   antigens were examined by a
        liposome agglutination assay. The assay was able to detect very low
        antiglycolipid antibody concentrations in the infected individuals. The
        sera from the   ***tuberculosis***   patient group had significantly
        higher concentrations of antiglycolipid antibody than the sera from
        uninfected control subjects, with 94% sensitivity and 98.3% specificity.
        Glycolipids   of Mycobacterium   ***tuberculosis***   H37Rv
antigens
        were isolated, purified, and characterized. After interchelation with
        liposome particles, these purified antigens specifically bound to the
        antiglycolipid antibodies present in the sera of patients with
        tuberculosis , resulting in the formation of a blue agglutination.
        This protocol clearly differentiates healthy controls and M. bovis
        BCG-vaccinated subjects from those with active   ***tuberculosis***   .
        The resultant   ***diagnostic***   tool, the TB Screen Test, is more
        economical and rapid (4 min) than other currently available products and
        can be. . .
IT   Major Concepts
        Infection; Clinical Chemistry (Allied Medical Sciences)
IT   Diseases
            tuberculosis : bacterial disease,   ***diagnosis***
            Tuberculosis   (MeSH)
IT   Chemicals & Biochemicals
            glycolipids ; serological markers
IT   Methods & Equipment
        TB Screen Test: clinical techniques,   ***diagnostic***   techniques
ORGN Classifier
        Mycobacteriaceae   08881
     Super Taxa
        Mycobacteria; Actinomycetes and Related Organisms; Eubacteria;
        Bacteria; Microorganisms
     Organism Name
        Mycobacterium bovis (species): pathogen
        Mycobacterium   ***tuberculosis***   (species): pathogen, strain-H37Rv

Taxa Notes
   Bacteria, Eubacteria, Microorganisms

AN   2007510106 EMBASE   <<LOGINID::20100824>>
TI   Rapid liposomal agglutination card test for the detection of antigens in
      patients with active   ***tuberculosis***   .
AU   Tiwari, R.P.
CS   Diagnostic Division, Nicholas Piramal India Limited, Pawane, Navi, Mumbai,
      India.
AU   Tiwari, R.P.; Garg, S.K.;   ***Bisen, Prakash S. (correspondence)***
CS   Institute of Biotechnology and Allied Sciences, Seedling Academy of
      Design, Technology and Management, Jagatpura, Jaipur, India. psbisen@gmail
      .com
AU   Garg, S.K.
CS   Department of Biochemistry, University of Nebraska, Lincoln, NE, United
      States.
AU   Bharmal, R.N.; Kartikeyan, S.
CS   Department of Microbiology, Preventive and Social Medicine, Rajiv Gandhi
      Medical College, Kalwa, Thane, India.
AU   ***Bisen, Prakash S. (correspondence)***
CS   Bisen Biotech and Biopharma Pvt. Ltd., M-7 Laxmipuram, Transport Nagar,
      Gwalior 474009, India. psbisen@gmail.com
SO   International Journal of Tuberculosis and Lung Disease, (Oct 2007) Vol.
      11, No. 10, pp. 1143-1151.
      Refs: 30
      ISSN: 1027-3719 CODEN: IJTDFO
CY   France
DT   Journal; Article
FS   015   Chest Diseases, Thoracic Surgery and Tuberculosis
      004   Microbiology: Bacteriology, Mycology, Parasitology and Virology
      006   Internal Medicine
LA   English
SL   English; French; Spanish; Castilian
ED   Entered STN: 30 Oct 2007
      Last Updated on STN: 30 Oct 2007
AB   SETTING: A total of 1360 subjects with clinically confirmed pulmonary and
      extra-pulmonary   ***tuberculosis***   (TB) and other non-tuberculous
      conditions. OBJECTIVES: To develop a rapid, sensitive and specific
        diagnostic   test for the detection of the   ***glycolipid***
      antigen of Mycobacterium   ***tuberculosis***   in a variety of clinical
      samples. STUDY DESIGN: Affinity-purified rabbit anti- ***glycolipid***
      antibodies (IgG) were coupled to liposome particles (0.2-0.4 .mu.m) in the
      presence of 1-ethyl-3-(3-dimethylaminopropyl) carbodiimide hydrochloride
      and N-hydroxysuccinamide to prepare the working reagent of the TB/M card
      test. RESULTS: Antibody-conjugated liposomes, when determined with the
        glycolipid   antigens present in the specimens, formed a dark blue
      agglutination within 4 min. No dumping was observed in samples from
      normal healthy subjects or patients with other diseases. The test was
      shown to be effective in detecting   ***glycolipid***   antigens of M.
        tuberculosis   in clinical samples from patients with active TB
with
      as low as 1 ng/ml analytical sensitivity, 97.4% clinical sensitivity and
      96.9% specificity. CONCLUSION: The TB/M card test was found to be
      comparatively economical (4 Indian Rupees or US$ 0.09/test), rapid (4 min)
      and seems fairly useful for mass testing of a variety of biological

specimens (cerebrospinal, pleural and synovial fluids, serum, tissue biopsy extract) from patients with tuberculous meningitis, pulmonary TB and other extra-pulmonary TB in endemic countries. .COPYRGT. 2007 The Union.

TI   Rapid liposomal agglutination card test for the detection of antigens in patients with active   ***tuberculosis*** .

AU   Tiwari, R.P.; Garg, S.K.;   ***Bisen, Prakash S. (correspondence)***

CS   Institute of Biotechnology and Allied Sciences, Seedling Academy of Design, Technology and Management, Jagatpura, Jaipur, India

AU   ***Bisen, Prakash S. (correspondence)***

CS   Bisen Biotech and Biopharma Pvt. Ltd., M-7 Laxmipuram, Transport Nagar, Gwalior 474009, India. psbisen@gmail.com

AB   SETTING: A total of 1360 subjects with clinically confirmed pulmonary and extra-pulmonary   ***tuberculosis***   (TB) and other non-tuberculous conditions. OBJECTIVES: To develop a rapid, sensitive and specific   ***diagnostic***   test for the detection of the   ***glycolipid***   antigen of Mycobacterium   ***tuberculosis***   in a variety of clinical samples. STUDY DESIGN: Affinity-purified rabbit anti- ***glycolipid***   antibodies (IgG) were coupled to liposome particles (0.2-0.4 .mu.m) in the presence of 1-ethyl-3-(3-dimethylaminopropyl) carbodiimide hydrochloride and N-hydroxysuccinamide to prepare the working reagent of the TB/M card test. RESULTS: Antibody-conjugated liposomes, when determined with the   ***glycolipid***   antigens present in the specimens, formed a dark blue agglutination within 4 min. No dumping was observed in samples from normal healthy subjects or patients with other diseases. The test was shown to be effective in detecting   ***glycolipid***   antigens of M.   ***tuberculosis***   in clinical samples from patients with active TB with as low as 1 ng/ml analytical sensitivity, 97.4% clinical sensitivity and. . .

CT   Medical Descriptors:
adolescent
adult
*agglutination test
*antigen detection
article
cerebrospinal fluid
controlled study
    diagnostic test
    extrapulmonary tuberculosis
human
    lung tuberculosis
major clinical study
    Mycobacterium tuberculosis
pleura fluid
priority journal
school child
sensitivity and specificity
synovial fluid
    ****tuberculosis***
tuberculous meningitis
1 (3 dimethylaminopropyl) 3 ethylcarbodiimide
amide
antibody conjugate
    glycolipid
liposome
n hydroxysuccinamide

```
        tissue extract


=> e tiwari ram/au
E1           1      TIWARI RAKESH VALLABHDAS/AU
E2          28      TIWARI RAKSHA/AU
E3           5 --> TIWARI RAM/AU
E4          60      TIWARI RAM C/AU
E5           1      TIWARI RAM C DR/AU
E6          15      TIWARI RAM D/AU
E7          11      TIWARI RAM DAS/AU
E8           2      TIWARI RAM KRISHNA/AU
E9           8      TIWARI RAM MOHAN/AU
E10         21      TIWARI RAM P/AU
E11          1      TIWARI RAM P DR/AU
E12          9      TIWARI RAM PARKASH/AU

=> s e1-e12 and tuberculosis and diagnos?
L4          4 ("TIWARI RAKESH VALLABHDAS"/AU OR "TIWARI RAKSHA"/AU OR "TIWARI
              RAM"/AU OR "TIWARI RAM C"/AU OR "TIWARI RAM C DR"/AU OR "TIWARI
              RAM D"/AU OR "TIWARI RAM DAS"/AU OR "TIWARI RAM KRISHNA"/AU OR
              "TIWARI RAM MOHAN"/AU OR "TIWARI RAM P"/AU OR "TIWARI RAM P DR"/
              AU OR "TIWARI RAM PARKASH"/AU) AND TUBERCULOSIS AND DIAGNOS?

=> dup rem l4
PROCESSING COMPLETED FOR L4
L5               1 DUP REM L4 (3 DUPLICATES REMOVED)

=> d

L5   ANSWER 1 OF 1  BIOSIS  COPYRIGHT (c) 2010 The Thomson Corporation  on STN
     DUPLICATE 1
AN   2004:37606  BIOSIS <<LOGINID::20100824>>
DN   PREV200400038179
TI   Analysis of the shotgun expression library of the Mycobacterium
       ***tuberculosis***   genome for immunodominant polypeptides: Potential
use
     in serodiagnosis.
AU   Bisen, Prakash S. [Reprint Author]; Garg, Sanjay K.;   ***Tiwari, Ram***
   ***     P.***  ; Tagore, P. Ravindra Nath; Chandra, Ramesh; Karnik, Rucha;
Thaker,
     Nimesh; Desai, Nirav; Ghosh, P. K.; Fraziano, Maurizio; Colizzi, Vittorio
CS   Madhav Institute of Technology and Science, Gwalior, MP, 474 005, India
     prakash_bisen@hotmail.com
SO   Clinical and Diagnostic Laboratory Immunology, (November 2003) Vol. 10,
     No. 6, pp. 1051-1058. print.
     ISSN: 1071-412X (ISSN print).
DT   Article
LA   English
ED   Entered STN: 7 Jan 2004
     Last Updated on STN: 7 Jan 2004


=> s l5 and glycolipid?
L6               0 L5 AND GLYCOLIPID?

=> e tiwari ram pramod/au
```

```
E1            1      TIWARI RAM PRAKAH/AU
E2           20      TIWARI RAM PRAKASH/AU
E3            5 --> TIWARI RAM PRAMOD/AU
E4            1      TIWARI RAMA N/AU
E5            1      TIWARI RAMA NATH/AU
E6            1      TIWARI RAMA SHANKAR/AU
E7            1      TIWARI RAMAPATI/AU
E8            1      TIWARI RAMENDRA K/AU
E9            5      TIWARI RAMESH/AU
E10           5      TIWARI RAMESH CHANDRA/AU
E11           1      TIWARI RAMJI/AU
E12          15      TIWARI RAMMOHAN/AU

=> s e3
L7              5 "TIWARI RAM PRAMOD"/AU

=> dup rem 17
PROCESSING COMPLETED FOR L7
L8              1 DUP REM L7 (4 DUPLICATES REMOVED)

=> d

L8   ANSWER 1 OF 1  BIOSIS  COPYRIGHT (c) 2010 The Thomson Corporation  on STN
     DUPLICATE 1
AN   2007:385701  BIOSIS <<LOGINID::20100824>>
DN   PREV200700390349
TI   Modern approaches to a rapid diagnosis of tuberculosis: Promises and
     challenges ahead.
AU     ***Tiwari, Ram Pramod***  ; Hattikudur, Narendra S.; Bharmal, Ramesh N.;
     Kartikeyan, S.; Deshmukh, Neeta M.; Bisen, Prakash S. [Reprint Author]
CS   Seeding Acad Design Technol and Management, Inst Biotechnol and Allied
     Sci, Jaipur 302004, Rajasthan, India
     psbisen@gmail.com
SO   Tuberculosis (Amsterdam), (MAY 2007) Vol. 87, No. 3, pp. 193-201.
     ISSN: 1472-9792.
DT   Article
     General Review; (Literature Review)
LA   English
ED   Entered STN: 11 Jul 2007
     Last Updated on STN: 11 Jul 2007


=> s liposom? and tuberculosis and glycolipid and antibod?
L9          23 LIPOSOM? AND TUBERCULOSIS AND GLYCOLIPID AND ANTIBOD?

=> dup rem 19
PROCESSING COMPLETED FOR L9
L10          10 DUP REM L9 (13 DUPLICATES REMOVED)

=> s 110 and diagnos?
L11           5 L10 AND DIAGNOS?

=> d bib ab kwic 1-
YOU HAVE REQUESTED DATA FROM 5 ANSWERS - CONTINUE? Y/(N):y


L11  ANSWER 1 OF 5  BIOSIS  COPYRIGHT (c) 2010 The Thomson Corporation  on STN
```

TI   Glycolipids of Mycobacterium   ***tuberculosis***   strain H37Rv are
      potential serological markers for   ***diagnosis***   of active
        tuberculosis   .
AU   Tiwari, R. P.; Tiwari, Dileep; Garg, Sanjay K.; Chandra, Ramesh; Bisen,
      Prakash S. [Reprint Author]
CS   Bundelkhand Univ, JC Bose Inst Life Sci, Dept Biotechnol, Jhansi 284218,
      Uttar Pradesh, India
      prakash_bisen@hotmail.com
AB   A simple and cost-effective   ***diagnostic***   tool (TB Screen Test) for
      the screening of patients with pulmonary and extrapulmonary
        tuberculosis   and for differentiation of those individuals from
      individuals without   ***tuberculosis***   , other common infections, and
      healthy controls has been developed. The serological responses of
      purified mycobacterial   ***glycolipid***   antigens were examined by a
        liposome   agglutination assay. The assay was able to detect very
      low antiglycolipid   ***antibody***   concentrations in the infected
      individuals. The sera from the   ***tuberculosis***   patient group had
      significantly higher concentrations of antiglycolipid   ***antibody***
      than the sera from uninfected control subjects, with 94% sensitivity and
      98.3% specificity. Glycolipids of Mycobacterium   ***tuberculosis***
      H37Rv antigens were isolated, purified, and characterized. After
      interchelation with   ***liposome***   particles, these purified antigens
      specifically bound to the antiglycolipid   ***antibodies***   present in
      the sera of patients with   ***tuberculosis***   , resulting in the
      formation of a blue agglutination. This protocol clearly differentiates
      healthy controls and M. bovis BCG-vaccinated subjects from those with
      active   ***tuberculosis***   . The resultant   ***diagnostic***   tool,
      the TB Screen Test, is more economical and rapid (4 min) than other
      currently available products and can be used for the mass screening of a
      heavily afflicted population.

the sera of patients with ***tuberculosis*** , resulting in the
formation of a blue agglutination. This protocol clearly differentiates
healthy controls and M. bovis BCG-vaccinated subjects from those with
active ***tuberculosis*** . The resultant ***diagnostic*** tool,
the TB Screen Test, is more economical and rapid (4 min) than other
currently available products and can be. . .
IT   Major Concepts
        Infection; Clinical Chemistry (Allied Medical Sciences)
IT   Diseases
            tuberculosis : bacterial disease, ***diagnosis***
            Tuberculosis (MeSH)
IT   Chemicals & Biochemicals
        glycolipids; serological markers
IT   Methods & Equipment
        TB Screen Test: clinical techniques, ***diagnostic*** techniques
ORGN Classifier
        Mycobacteriaceae   08881
     Super Taxa
        Mycobacteria; Actinomycetes and Related Organisms; Eubacteria;
        Bacteria; Microorganisms
     Organism Name
        Mycobacterium bovis (species): pathogen
        Mycobacterium ***tuberculosis*** (species): pathogen, strain-H37Rv
     Taxa Notes
        Bacteria, Eubacteria, Microorganisms

L11 ANSWER 2 OF 5 CAPLUS COPYRIGHT 2010 ACS on STN
AN   1997:425363 CAPLUS <<LOGINID::20100824>>
DN   127:32828
OREF 127:6345a,6348a
TI   Therapeutic and ***diagnostic*** vaccine for the treatment of
     microbial infections
IN   Pascual, David; Bond, Clifford; Burritt, James; Burgess, Don; Glee, Pati;
     Jutila, John; Jutila, Mark; Bargatze, Robert; Mcfeters, Gordon; Pyle,
     Barry; Cutler, Jim E.; Han, Yongmoon
PA   Research and Development Institute, Inc., USA; Pascual, David; Bond,
     Clifford; Burritt, James; Burgess, Don; Glee, Pati; Jutila, John; Jutila,
     Mark; Bargatze, Robert; et al.
SO   PCT Int. Appl., 98 pp.
     CODEN: PIXXD2
DT   Patent
LA   English
FAN.CNT 4
     PATENT NO.   KIND   DATE   APPLICATION NO.   DATE
     ---------------   ----   --------   --------------------   --------
PI   WO 9718790   A2   19970529   WO 1996-US18796   19961121
     WO 9718790   A3   19970731
        W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK,
            EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK,
            LR, LS, LT, LU, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU,
            SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, US, UZ, VN
        RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR,
            IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML,
            MR, NE, SN, TD, TG
     CA 2238262   A1   19970529   CA 1996-2238262   19961121
     AU 9711226   A   19970611   AU 1997-11226   19961121
     EP 869801   A2   19981014   EP 1996-942049   19961121

```
      EP 869801             B1    20040121
          R:  AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LI, LU, MC, NL,
              PT, SE
      JP 2000503630         T     20000328   JP 1997-519932        19961121
      AT 258057             T     20040215   AT 1996-942049        19961121
      US 20040247611        A1    20041209   US 2004-780650        20040219
PRAI  US 1995-7477P         P     19951122
      US 1994-247972        B2    19940523
      US 1995-483558        A2    19950607
      WO 1996-US18796       W     19961121
      US 1998-68935         B1    19981123
AB    Therapeutic peptides, vaccines and   ***diagnostic***   agents are
      disclosed for the treatment of pathogenic infections.  The agents are
      capable of binding to mol. address on host cell (e.g. leukocyte,
      endothelial or epithelial cells, nerve cells), triggering one or more
      signal transduction pathways and enabling selective pathogen or toxin to
      traffic through host tissue.  The agents are microbial attachment mols.
      such as adhesive protein, glycoprotein, lectin, carbohydrate,
        ***glycolipid***  .
OSC.G   4      THERE ARE 4 CAPLUS RECORDS THAT CITE THIS RECORD (4 CITINGS)
RE.CNT  3      THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
               ALL CITATIONS AVAILABLE IN THE RE FORMAT
TI    Therapeutic and   ***diagnostic***   vaccine for the treatment of
      microbial infections
AB    Therapeutic peptides, vaccines and   ***diagnostic***   agents are
      disclosed for the treatment of pathogenic infections.  The agents are
      capable of binding to mol. address on host.  .  . or toxin to traffic
      through host tissue.  The agents are microbial attachment mols. such as
      adhesive protein, glycoprotein, lectin, carbohydrate,   ***glycolipid***
      .
ST    microbial adhesion mol vaccine   ***diagnostic***   ; monoclonal
        ***antibody***   microbial antigen therapeutic   ***diagnostic***
IT    Agglutinins and Lectins
      RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
      (Biological study); USES (Uses)
         (C-type (calcium-dependent type); vaccine comprising microbial adhesion
         mol. antigen as therapeutic and   ***diagnostic***   for microbial
         infections)
IT    Integrins
      RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
         (CD41a; vaccine comprising microbial adhesion mol. antigen as
         therapeutic and   ***diagnostic***   for microbial infections)
IT    Integrins
      RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
         (CD49; vaccine comprising microbial adhesion mol. antigen as
         therapeutic and   ***diagnostic***   for microbial infections)
IT    Gene, animal
      RL: BSU (Biological study, unclassified); BIOL (Biological study)
         (Cdc42, CTP-binding protein; vaccine comprising microbial adhesion mol.
         antigen as therapeutic and   ***diagnostic***   for microbial
         infections)
IT    Selectins
      RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
      (Biological study); USES (Uses)
         (E-; vaccine comprising microbial adhesion mol. antigen as therapeutic
         and   ***diagnostic***   for microbial infections)
IT    Proteins, specific or class
```

```
      RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
         (GTP-binding; vaccine comprising microbial adhesion mol. antigen as
         therapeutic and  ***diagnostic***  for microbial infections)
   IT   Cell adhesion molecules
      RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
         (ICAM-1 (intercellular adhesion mol. 1); vaccine comprising microbial
         adhesion mol. antigen as therapeutic and  ***diagnostic***  for
         microbial infections)
   IT   Cell adhesion molecules
      RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
         (ICAM-2 (intercellular adhesion mol. 2); vaccine comprising microbial
         adhesion mol. antigen as therapeutic and  ***diagnostic***  for
         microbial infections)
   IT   Cell adhesion molecules
      RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
         (ICAM-3 (intercellular adhesion mol. 3); vaccine comprising microbial
         adhesion mol. antigen as therapeutic and  ***diagnostic***  for
         microbial infections)
   IT   Selectins
      RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
      (Biological study); USES (Uses)
         (L-; vaccine comprising microbial adhesion mol. antigen as therapeutic
         and  ***diagnostic***  for microbial infections)
   IT   Cell adhesion molecules
      RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
         (MAdCAM-1; vaccine comprising microbial adhesion mol. antigen as
         therapeutic and  ***diagnostic***  for microbial infections)
   IT   Cell adhesion molecules
      RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
         (N-CAM; vaccine comprising microbial adhesion mol. antigen as
         therapeutic and  ***diagnostic***  for microbial infections)
   IT   Selectins
      RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
      (Biological study); USES (Uses)
         (P-; vaccine comprising microbial adhesion mol. antigen as therapeutic
         and  ***diagnostic***  for microbial infections)
   IT   Cell adhesion molecules
      RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
         (PECAM-1; vaccine comprising microbial adhesion mol. antigen as
         therapeutic and  ***diagnostic***  for microbial infections)
   IT   Toxins
      RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
         (Shiga-like toxin, Escherichia coli; vaccine comprising microbial
         adhesion mol. antigen as therapeutic and  ***diagnostic***  for
         microbial infections)
   IT   Antigens
      RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
         (Streptococcal SA I/II; vaccine comprising microbial adhesion mol.
         antigen as therapeutic and  ***diagnostic***  for microbial
         infections)
   IT   Cell adhesion molecules
      RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
         (VAM-1; vaccine comprising microbial adhesion mol. antigen as
         therapeutic and  ***diagnostic***  for microbial infections)
   IT   Integrins
      RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
      (Biological study); USES (Uses)
```

```
       (VLA; vaccine comprising microbial adhesion mol. antigen as therapeutic
       and  ***diagnostic***   for microbial infections)
IT  Intestine
       (adhesion of Escherichia coli; vaccine comprising microbial adhesion
       mol. antigen as therapeutic and  ***diagnostic***   for microbial
       infections)
IT   ***Diagnosis***
       (agents; vaccine comprising microbial adhesion mol. antigen as
       therapeutic and  ***diagnostic***   for microbial infections)
IT  Macrophage
       (alveolar; vaccine comprising microbial adhesion mol. antigen as
       therapeutic and  ***diagnostic***   for microbial infections)
IT  Lung
       (alveolus, macrophage; vaccine comprising microbial adhesion mol.
       antigen as therapeutic and  ***diagnostic***   for microbial
       infections)
IT  Integrins
    RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
       (antigens Mac-1 (macrophage 1); vaccine comprising microbial adhesion
       mol. antigen as therapeutic and  ***diagnostic***   for microbial
       infections)
IT  Epithelium
    Respiratory tract
       (cells; vaccine comprising microbial adhesion mol. antigen as
       therapeutic and  ***diagnostic***   for microbial infections)
IT  Peptides, biological studies
    RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
       (conjugates; vaccine comprising microbial adhesion mol. antigen as
       therapeutic and  ***diagnostic***   for microbial infections)
IT  Blood vessel
       (endothelium, cells; vaccine comprising microbial adhesion mol. antigen
       as therapeutic and  ***diagnostic***   for microbial infections)
IT  Toxins
    RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
       (enterotoxins, Escherichia coli; vaccine comprising microbial adhesion
       mol. antigen as therapeutic and  ***diagnostic***   for microbial
       infections)
IT  Clostridium botulinum
    Clostridium tetani
       (exotoxin; vaccine comprising microbial adhesion mol. antigen as
       therapeutic and  ***diagnostic***   for microbial infections)
IT  Toxins
    RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
       (exotoxins; vaccine comprising microbial adhesion mol. antigen as
       therapeutic and  ***diagnostic***   for microbial infections)
IT  G proteins (guanine nucleotide-binding proteins)
    RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
       (gene TC4; vaccine comprising microbial adhesion mol. antigen as
       therapeutic and  ***diagnostic***   for microbial infections)
IT  G proteins (guanine nucleotide-binding proteins)
    RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
       (gene rab; vaccine comprising microbial adhesion mol. antigen as
       therapeutic and  ***diagnostic***   for microbial infections)
IT  G proteins (guanine nucleotide-binding proteins)
    RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
       (gene rac; vaccine comprising microbial adhesion mol. antigen as
       therapeutic and  ***diagnostic***   for microbial infections)
```

```
IT    Integrins
      RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
         (gp150.95; vaccine comprising microbial adhesion mol. antigen as
         therapeutic and   ***diagnostic***   for microbial infections)
IT    Digestive tract
      Digestive tract
         (hemorrhage, microorganism causing; vaccine comprising microbial
         adhesion mol. antigen as therapeutic and   ***diagnostic***   for
         microbial infections)
IT    Urogenital tract
         (infection; vaccine comprising microbial adhesion mol. antigen as
         therapeutic and   ***diagnostic***   for microbial infections)
IT    Integrins
      RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
      (Biological study); USES (Uses)
         (leucam; vaccine comprising microbial adhesion mol. antigen as
         therapeutic and   ***diagnostic***   for microbial infections)
IT    Lung
         (macrophage; vaccine comprising microbial adhesion mol. antigen as
         therapeutic and   ***diagnostic***   for microbial infections)
IT    Sialic acids
      RL: BSU (Biological study, unclassified); BIOL (Biological study)
         (microbial adhesion mol. contg.; vaccine comprising microbial adhesion
         mol. antigen as therapeutic and   ***diagnostic***   for microbial
         infections)
IT    Glycopeptides
      Peptides, biological studies
      RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
         (microbial adhesion mol.; vaccine comprising microbial adhesion mol.
         antigen as therapeutic and   ***diagnostic***   for microbial
         infections)
IT    Agglutinins and Lectins
      Ligands
      RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
      (Biological study); USES (Uses)
         (microbial; vaccine comprising microbial adhesion mol. antigen as
         therapeutic and   ***diagnostic***   for microbial infections)
IT     ***Antibodies***
      RL: BPN (Biosynthetic preparation); THU (Therapeutic use); BIOL
      (Biological study); PREP (Preparation); USES (Uses)
         (monoclonal; vaccine comprising microbial adhesion mol. antigen as
         therapeutic and   ***diagnostic***   for microbial infections)
IT    Pharynx
         (nasopharynx, epithelium and endothelium; vaccine comprising microbial
         adhesion mol. antigen as therapeutic and   ***diagnostic***   for
         microbial infections)
IT    Nerve
         (neuron; vaccine comprising microbial adhesion mol. antigen as
         therapeutic and   ***diagnostic***   for microbial infections)
IT    Infection
         (nosocomial; vaccine comprising microbial adhesion mol. antigen as
         therapeutic and   ***diagnostic***   for microbial infections)
IT    Peptides, biological studies
      RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
         (oligopeptides; vaccine comprising microbial adhesion mol. antigen as
         therapeutic and   ***diagnostic***   for microbial infections)
IT    Urinary tract
```

```
              (pathogen; vaccine comprising microbial adhesion mol. antigen as
              therapeutic and   ***diagnostic***   for microbial infections)
    IT   Fungi
              (phycomycetous; vaccine comprising microbial adhesion mol. antigen as
              therapeutic and   ***diagnostic***   for microbial infections)
    IT   Paramagnetic materials
              (superparamagnetic, beads; vaccine comprising microbial adhesion mol.
              antigen as therapeutic and   ***diagnostic***   for microbial
              infections)
    IT   Escherichia coli
              (uropathjogenic; vaccine comprising microbial adhesion mol. antigen as
              therapeutic and   ***diagnostic***   for microbial infections)
    IT   Animal cell
         Animal tissue
         Aspergillus
         B cell (lymphocyte)
         Bacteriophage
         Blastomyces
         Bordetella pertussis
         Brucella
         Candida
         Candida albicans
         Cell adhesion
         Chlamydia
         Coccidioides
         Coliphage M13
         Corynebacterium diphtheriae
         Cowpea mosaic virus
         Cryptococcus (fungus)
         Cryptosporidium
              ***Diagnosis***
         Entamoeba histolytica
         Enterobacter aerogenes
         Eukaryote (Eukaryotae)
         Francisella tularensis
         Fungi
         Genetic vectors
         Giardia lamblia
         Haemophilus influenzae
         Hafnia alvei
         Hantavirus
         Helicobacter pylori
         Hepatitis virus
         Histoplasma
         Human adenovirus
         Human coxsackievirus
         Human herpesvirus
         Human immunodeficiency virus
         Human poliovirus
         Influenza A virus
         Influenza B virus
         Influenza C virus
         Klebsiella pneumoniae
         Legionella
         Leishmania
         Leukocyte
              ***Liposomes***
```

```
      Measles virus
      Microorganism
      Mumps virus
      Mycobacterium   ***tuberculosis***
      Mycoplasma pneumoniae
      Neisseria gonorrhoeae
      Neisseria meningitidis
      Organ, animal
      Parasite
      Pathogen
      Pilus
      Plasmodium berghei
      Plasmodium falciparum
      Prokaryote
      Proteus (bacterium)
      Pseudomonas
      Pseudomonas aeruginosa
      Rhinovirus
      Rubella virus
      Salmonella
      Salmonella typhi
      Salmonella typhimurium
      Shigella
      Signal transduction, biological
      Staphylococcus
      Streptococcus
      T cell (lymphocyte)
      Treponema pallidum
      Trichomonas vaginalis
      Tritrichomonas foetus
      Trypanosoma
      Vaccines
      Vibrio cholerae
      Yersinia enterocolitica
      Yersinia pestis
      Yersinia pseudotuberculosis
         (vaccine comprising microbial adhesion mol. antigen as therapeutic and
           ***diagnostic***   for microbial infections)
 IT   Cell adhesion molecules
      RL: ADV (Adverse effect, including toxicity); BSU (Biological study,
      unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
         (vaccine comprising microbial adhesion mol. antigen as therapeutic and
           ***diagnostic***   for microbial infections)
 IT   Antigens
      Carbohydrates, biological studies
      Glycolipids
      Glycoproteins, general, biological studies
      Integrins
      Selectins
      RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
      (Biological study); USES (Uses)
         (vaccine comprising microbial adhesion mol. antigen as therapeutic and
           ***diagnostic***   for microbial infections)
 IT   ADP ribosylation factor
      Adhesins
      Antiserums
      Chemokines
```

```
        Cytokines
        Glycoconjugates
        Immunoglobulins
        LFA-1 (antigen)
        Ras proteins
        Rho protein (G protein)
        Toxins
        RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
           (vaccine comprising microbial adhesion mol. antigen as therapeutic and
            ***diagnostic***   for microbial infections)
IT    Cell adhesion molecules
        RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
           (vascular or VCAM; vaccine comprising microbial adhesion mol. antigen
           as therapeutic and   ***diagnostic***   for microbial infections)
IT    Integrins
        RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
           (.alpha.v; vaccine comprising microbial adhesion mol. antigen as
           therapeutic and   ***diagnostic***   for microbial infections)
IT    Integrins
        RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
           (.alpha.1.beta.1; vaccine comprising microbial adhesion mol. antigen as
           therapeutic and   ***diagnostic***   for microbial infections)
IT    Integrins
        RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
           (.alpha.2.beta.1; vaccine comprising microbial adhesion mol. antigen as
           therapeutic and   ***diagnostic***   for microbial infections)
IT    Integrins
        RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
           (.alpha.3.beta.1; vaccine comprising microbial adhesion mol. antigen as
           therapeutic and   ***diagnostic***   for microbial infections)
IT    Integrins
        RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
           (.alpha.4.beta.1; vaccine comprising microbial adhesion mol. antigen as
           therapeutic and   ***diagnostic***   for microbial infections)
IT    Integrins
        RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
           (.alpha.5.beta.1; vaccine comprising microbial adhesion mol. antigen as
           therapeutic and   ***diagnostic***   for microbial infections)
IT    Integrins
        RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
           (.alpha.6.beta.1; vaccine comprising microbial adhesion mol. antigen as
           therapeutic and   ***diagnostic***   for microbial infections)
IT    72146-52-2, Mutan
        RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
           (Streptococcal; vaccine comprising microbial adhesion mol. antigen as
           therapeutic and   ***diagnostic***   for microbial infections)
IT    9005-32-7, Alginic acid
        RL: BUU (Biological use, unclassified); BIOL (Biological study); USES
        (Uses)
           (gel; vaccine comprising microbial adhesion mol. antigen as therapeutic
           and   ***diagnostic***   for microbial infections)
IT    59-23-4, Galactose, biological studies   63-42-3, Lactose   131-48-6,
      N-Acetylneuraminic acid   1811-31-0, N-Acetylgalactosamine   2438-80-4,
      Fucose   3416-24-8, Glucosamine   3458-28-4, Mannose   7512-17-6
      7535-00-4, Galactosamine
        RL: BSU (Biological study, unclassified); BIOL (Biological study)
           (microbial adhesion mol. contg.; vaccine comprising microbial adhesion
```

```
        mol. antigen as therapeutic and   ***diagnostic***    for microbial
        infections)
IT   29350-58-1, PNAd-1
     RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
        (vaccine comprising microbial adhesion mol. antigen as therapeutic and
         ***diagnostic***   for microbial infections)

L11  ANSWER 3 OF 5  EMBASE   COPYRIGHT (c) 2010 Elsevier B.V. All rights
     reserved on STN
AN   2007510106  EMBASE   <<LOGINID::20100824>>
TI   Rapid   ***liposomal***   agglutination card test for the detection of
     antigens in patients with active   ***tuberculosis***  .
AU   Tiwari, R.P.
CS   Diagnostic Division, Nicholas Piramal India Limited, Pawane, Navi, Mumbai,
     India.
AU   Tiwari, R.P.; Garg, S.K.; Bisen, Prakash S. (correspondence)
CS   Institute of Biotechnology and Allied Sciences, Seedling Academy of
     Design, Technology and Management, Jagatpura, Jaipur, India. psbisen@gmail
     .com
AU   Garg, S.K.
CS   Department of Biochemistry, University of Nebraska, Lincoln, NE, United
     States.
AU   Bharmal, R.N.; Kartikeyan, S.
CS   Department of Microbiology, Preventive and Social Medicine, Rajiv Gandhi
     Medical College, Kalwa, Thane, India.
AU   Bisen, Prakash S. (correspondence)
CS   Bisen Biotech and Biopharma Pvt. Ltd., M-7 Laxmipuram, Transport Nagar,
     Gwalior 474009, India. psbisen@gmail.com
SO   International Journal of Tuberculosis and Lung Disease, (Oct 2007) Vol.
     11, No. 10, pp. 1143-1151.
     Refs: 30
     ISSN: 1027-3719  CODEN: IJTDFO
CY   France
DT   Journal; Article
FS   015    Chest Diseases, Thoracic Surgery and Tuberculosis
     004    Microbiology: Bacteriology, Mycology, Parasitology and Virology
     006    Internal Medicine
LA   English
SL   English; French; Spanish; Castilian
ED   Entered STN: 30 Oct 2007
     Last Updated on STN: 30 Oct 2007
AB   SETTING: A total of 1360 subjects with clinically confirmed pulmonary and
     extra-pulmonary   ***tuberculosis***   (TB) and other non-tuberculous
     conditions. OBJECTIVES: To develop a rapid, sensitive and specific
      ***diagnostic***   test for the detection of the   ***glycolipid***
     antigen of Mycobacterium   ***tuberculosis***   in a variety of clinical
     samples. STUDY DESIGN: Affinity-purified rabbit anti-  ***glycolipid***
      ***antibodies***   (IgG) were coupled to   ***liposome***   particles
     (0.2-0.4 .mu.m) in the presence of 1-ethyl-3-(3-dimethylaminopropyl)
     carbodiimide hydrochloride and N-hydroxysuccinamide to prepare the working
     reagent of the TB/M card test. RESULTS:   ***Antibody***  -conjugated
      ***liposomes***  , when determined with the   ***glycolipid***   antigens
     present in the specimens, formed a dark blue agglutination within 4 min.
     No dumping was observed in samples from normal healthy subjects or
     patients with other diseases.  The test was shown to be effective in
     detecting   ***glycolipid***   antigens of M.   ***tuberculosis***   in
     clinical samples from patients with active TB with as low as 1 ng/ml
```

analytical sensitivity, 97.4% clinical sensitivity and 96.9% specificity. CONCLUSION: The TB/M card test was found to be comparatively economical (4 Indian Rupees or US$ 0.09/test), rapid (4 min) and seems fairly useful for mass testing of a variety of biological specimens (cerebrospinal, pleural and synovial fluids, serum, tissue biopsy extract) from patients with tuberculous meningitis, pulmonary TB and other extra-pulmonary TB in endemic countries. .COPYRGT. 2007 The Union.

TI   Rapid   ***liposomal***   agglutination card test for the detection of antigens in patients with active   ***tuberculosis***   .

AB   SETTING: A total of 1360 subjects with clinically confirmed pulmonary and extra-pulmonary   ***tuberculosis***   (TB) and other non-tuberculous conditions. OBJECTIVES: To develop a rapid, sensitive and specific   ***diagnostic***   test for the detection of the   ***glycolipid***   antigen of Mycobacterium   ***tuberculosis***   in a variety of clinical samples. STUDY DESIGN: Affinity-purified rabbit anti-   ***glycolipid***   ***antibodies***   (IgG) were coupled to   ***liposome***   particles (0.2-0.4 .mu.m) in the presence of 1-ethyl-3-(3-dimethylaminopropyl) carbodiimide hydrochloride and N-hydroxysuccinamide to prepare the working reagent of the TB/M card test. RESULTS: ***Antibody***   -conjugated   ***liposomes***   , when determined with the   ***glycolipid***   antigens present in the specimens, formed a dark blue agglutination within 4 min. No dumping was observed in samples from normal healthy subjects or patients with other diseases. The test was shown to be effective in detecting   ***glycolipid***   antigens of M.   ***tuberculosis***   in clinical samples from patients with active TB with as low as 1 ng/ml analytical sensitivity, 97.4% clinical sensitivity and. . .

CT   Medical Descriptors:
adolescent
adult
*agglutination test
*antigen detection
article
cerebrospinal fluid
controlled study
    diagnostic test
    extrapulmonary tuberculosis
human
    lung tuberculosis
major clinical study
    Mycobacterium tuberculosis
pleura fluid
priority journal
school child
sensitivity and specificity
synovial fluid
    ****tuberculosis***
tuberculous meningitis
1 (3 dimethylaminopropyl) 3 ethylcarbodiimide
amide
    antibody conjugate
    glycolipid
    liposome
n hydroxysuccinamide
tissue extract

```
TI    [Major trends in lipid immunochemistry].
      Osnovnye napravleniia immunokhimii lipidov..
AU    Shvets, V.I. (correspondence); Krasnopol'skii, I.M.
SO    Ukrainskii biokhimicheskii zhurnal, (1984 May-Jun) Vol. 56, No. 3, pp.
      254-263.
      ISSN: 0201-8470
CY    Russian Federation
DT    Journal; Article
FS    MEDLINE
LA    Russian
ED    Entered STN: Mar 2010
      Last Updated on STN: Mar 2010
AB    Data are presented on immunochemical properties of lipids, the most
      important group of biologically active substances.  Problems on antigenic,
      immunogenic and adjuvant activities of lipids are considered.  A possible
      use of lipid antigens for   ***diagnosis***   of different infectious
      diseases is demonstrated and main principles of their construction are
      suggested.  Data are available on immunogenicity of phospho- and
       ***glycolipid***   mixtures as well as on practical application of the
      obtained   ***antibodies***   .  Guidelines for the use of immunochemical
      properties of lipids are outlined.
AB    .  .  .   active substances.  Problems on antigenic, immunogenic and
      adjuvant activities of lipids are considered.  A possible use of lipid
      antigens for   ***diagnosis***   of different infectious diseases is
      demonstrated and main principles of their construction are suggested.
      Data are available on immunogenicity of phospho- and   ***glycolipid***
      mixtures as well as on practical application of the obtained
       ***antibodies***   .  Guidelines for the use of immunochemical properties
      of lipids are outlined.
CT    Medical Descriptors:
      animal
      article
      brain
      cattle
      human
      immunization
      immunology
          ***lung tuberculosis: DI, diagnosis***
          ***schistosomiasis: DI, diagnosis***
      serology
      syphilis serology
      cardiolipin
          ***diagnostic agent***
      *epitope: AN, drug analysis
      immunological adjuvant: AD, drug administration
      *lipid: AD, drug administration
          ***liposome: AD, drug administration***


L11   ANSWER 5 OF 5  SCISEARCH  COPYRIGHT (c) 2010 The Thomson Corporation  on
      STN
AN    2008:599597  SCISEARCH <<LOGINID::20100824>>
GA    The Genuine Article (R) Number: 292ZK
TI    A novel application of affinity biosensor technology to detect
       ***antibodies***   to mycolic acid in   ***tuberculosis***   patients
AU    Verschoor, Jan A. (Reprint)
```

CS   Univ Pretoria, Dept Biochem, ZA-0002 Pretoria, South Africa (Reprint)
AU   Thanyani, Simon T.; Roberts, Vanessa; Siko, D. Gilbert R.; Vrey, Pieter
CS   E-mail: jan.verschoor@up.ac.za
CYA   South Africa
AB   ***Tuberculosis*** has re-emerged as a global health problem due to
      co-infection with HIV and the emergence of drug-resistant strains of
      Mycobacterium ***tuberculosis*** . HIV co-infection introduced a 30%
      underestimation in TB ***diagnosis*** based on sputum analysis,
      calling for a reliable and fast serodiagnostic assay to assist in the
      management of TB in HIV-burdened populations. Serodiagnosis with
      mycobacterial lipid cell wall antigens gave promising results, in
      particular with LAM and cord factor. Free mycolic acids have also been
      considered because they are unique in structure to each species of
      Mycobacterium and can be economically extracted and purified. In a
      standard immunoassay such as ELISA, however, an unacceptable number of
      false positive and false negative test results were obtained. Here we
      report a much improved biosensor method to detect ***antibodies*** to
      mycolic acids in patient serum as surrogate markers of active
       tuberculosis . Mycolic acid (MA) ***liposomes*** were
      immobilized on a non-derivatized twin-celled biosensor cuvette and blocked
      with saponin. A high dilution of serum was used to calibrate the binding
      signal of the two cells, followed by contact with patient serum at a
      lesser dilution, but pre-incubated with either antigen-carrying, or empty
       liposomes . The serum, or the protein A purified IgG thereof,
from
      sputum-positive ***tuberculosis*** patients could be inhibited from
      binding to the MA in the biosensor by prior incubation with MA-containing
       liposomes . The accuracy of the inhibition test was 84% if
      HIV-positive patients for whom a negative TB sputum analyses could not be
      relied upon to serve as a reference standard were excluded. If biosensor
      technology could be made suitable for high throughput screening, then it
      may provide the solution to the serodiagnosis of ***tuberculosis***
      against a background of HIV (C) 2007 Elsevier B.V. All rights reserved.
TI   A novel application of affinity biosensor technology to detect
       antibodies to mycolic acid in ***tuberculosis*** patients
AB   ***Tuberculosis*** has re-emerged as a global health problem due to
      co-infection with HIV and the emergence of drug-resistant strains of
      Mycobacterium ***tuberculosis*** . HIV co-infection introduced a 30%
      underestimation in TB ***diagnosis*** based on sputum analysis,
      calling for a reliable and fast serodiagnostic assay to assist in the
      management of TB in. . . of false positive and false negative test
      results were obtained. Here we report a much improved biosensor method to
      detect ***antibodies*** to mycolic acids in patient serum as surrogate
      markers of active ***tuberculosis*** . Mycolic acid (MA)
       liposomes were immobilized on a non-derivatized twin-celled
      biosensor cuvette and blocked with saponin. A high dilution of serum was
      used to. . . the two cells, followed by contact with patient serum at a

lesser dilution, but pre-incubated with either antigen-carrying, or empty
liposomes . The serum, or the protein A purified IgG thereof,
from
sputum-positive ***tuberculosis***   patients could be inhibited from
binding to the MA in the biosensor by prior incubation with MA-containing
liposomes . The accuracy of the inhibition test was 84% if
HIV-positive patients for whom a negative TB sputum analyses could not. .
. biosensor technology could be made suitable for high throughput
screening, then it may provide the solution to the serodiagnosis of
tuberculosis   against a background of HIV (C) 2007 Elsevier B.V.
All rights reserved.
ST   Author Keywords: ***antibodies*** ; mycolic acids; biosensor;
Mycobacterium ***tuberculosis*** ; serodiagnosis
STP   KeyWords Plus (R): MYCOBACTERIUM- ***TUBERCULOSIS*** ; PULMONARY
TUBERCULOSIS ; IMMUNE-RESPONSES; PROTEIN-A; BIOMOLECULAR
INTERACTIONS; SEROLOGICAL ***DIAGNOSIS*** ; ***GLYCOLIPID***
ANTIGEN; OPTICAL BIOSENSOR; RESONANT MIRROR; IGG ***ANTIBODY***